Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (Currently amended) An insulated wire for use in a communications cable, the wire comprising:

a conductor;

at least one inner insulating layer surrounding said conductor, at least one of said at least one inner insulating layer being a nano-composite comprising nano-sized platelets and a flame and smoke retardant additive package dispersed within a polyolefin matrix; and

an outer layer surrounding said at least one inner insulating layer, wherein said outer layer is substantially resistant to flame spread and smoke evolution, substantially impermeable to moisture and moisture absorption and has a dielectric constant lower than about 2.5 and a dissipation coefficient lower than about 0.001 at frequencies up to about 650 MHz[.];

wherein said at least one inner insulating layer has a volume of at least about 35% and up to about 70% of the volume of said at least one inner insulating layer and said outer layer combined.

2. (Original) The insulated wire of claim 1, wherein said outer layer is a fluoropolymer.

3. (Original) The insulated wire of claim 2, wherein said fluoropolymer is Fluorinated Ethylene Propylene polymer.

4. (Original) The insulated wire of claim 1, wherein said flame and smoke retardant additive package is intimately mixed with said polyolefin matrix.

5. (Original) The insulated wire of claim 1, wherein said nano-sized platelets are intimately mixed within said polyolefin matrix.

6. (Original) The insulated wire of claim 5, wherein said nano-sized platelets form an intercalated nano-composite structure within said polyolefin matrix.

7. (Original) The insulated wire of claim 5, wherein said nano-sized platelets form an exfoliated nano-composite structure within said polyolefin matrix.

8. (Original) The insulated wire of claim 5, wherein said nano-sized platelets form a both intercalated and exfoliated nano-composite structures within said polyolefin matrix.

9. (Original) The insulated wire of claim 1, wherein said nano-sized platelets are selected from the group consisting of organically modified nano-clays and organically modified synthetic platelets or combinations thereof.

10. (Original) The insulated wire of claim 1, wherein said nano-sized platelets comprise synthetic platelets, said synthetic platelets dispersed in said polyolefin matrix.

11. (Original) The insulated wire of claim 1, wherein flame and smoke retardant additive package is selected from the group consisting of a non-halogen additive package, an intumescent additive package, a halogen additive package and combinations thereof.

12. (Original) The insulated wire of claim 1, wherein said flame and smoke retardant additive package contains at least about 50% light metal hydroxides.

13. (Original) The insulated wire of claim 12, wherein said light metal hydroxides are selected from the group consisting of magnesium hydroxide and aluminum hydroxide minerals and combinations thereof.

14. (Original) The insulated wire of claim 12, wherein said light metal hydroxides are dispersed within said polyolefin matrix in combination with other additives selected from the group consisting of molydates, borates, stannates, and silicates and combinations thereof.

15. (Original) The insulated wire of claim 12, wherein said light metal hydroxides are surface treated.

16. (Original) The insulated wire of claim 15, wherein said surface treatment is hydrophobic.

17. (Original) The insulated wire of claim 1, wherein said flame and smoke retardant additive package contains at least about 50% intumescent additives.

18. (Original) The insulated wire of claim 17, wherein said intumescent additives are selected from the group consisting of melamine cyanurate, phosphate derivatives of melamine, ammonium polyphosphate and combinations thereof.

19. (Original) The insulated wire of claim 17, wherein said intumescent additives are dispersed within said polyolefin matrix in combination with other additives selected from the group consisting of molydates, borates, stannates and silicates and combinations thereof.

20. (Original) The insulated wire of claim 17, wherein said intumescent additives are surface treated.

21. (Original) The insulated wire of claim 20, wherein said surface treatment is hydrophobic.

22. (Original) The insulated wire of claim 1, wherein said flame and smoke retardant additive package contains at least about 50% halogen type additives.

23. (Original) The insulated wire of claim 22, wherein said halogen type additives are selected from a group consisting of bromine, chlorine, PTFE particles and combinations thereof.

24. (Original) The insulated wire of claim 22, wherein said halogen type additives are combined with antimony oxides in a predetermined molar ratio of about 1 mole of antimony oxides to about 3 moles of halogen.

25. (Original) The insulated wire of claim 22, wherein said halogen type additives are dispersed in said polyolefin matrix in combination with other minor additives selected from the group consisting of molydates, borates, stannates and silicates and combinations thereof.

26. (Original) The insulated wire of claim 1, wherein said polyolefin matrix is selected from a group consisting of metallocene type polyolefins, elastomer polyolefins and functionalized polyolefins and combinations thereof.

27. (Currently amended) The insulated wire of claim 1, wherein the polyolefin matrix of at least one of said at least one inner insulating layer is foamed.

28. (Original) The insulated wire of claim 27, wherein said nano-sized platelets are dispersed within said foamed polyolefin matrix.

29. (Original) The insulated wire of claim 1, wherein the said conductor is a copper conductor and wherein an overall diameter of the wire does not exceed about 26 mils.

30. (Currently amended) The insulated wire of claim 1, wherein said at least one inner layer and said outer layer combined do not exceed about 12 mils thickness.

31. (Original) The insulated wire of claim 1, wherein an outer surface of said inner layer adjacent an inner surface of said outer layer has a series of channels formed therein.

32. (Original) The insulated wire of claim 31, wherein said channels are equally spaced.

33. (Original) The insulated wire of claim 31, wherein said channels have identical cross-sections.

34. (Currently amended) The insulated wire of claim 31, wherein said channels are projected toward the centre of ~~the~~ said conductor and penetrate into ~~the~~ said inner layer by no more than about 66% of the total layer thickness.

35. (Currently amended) The insulated wire of claim 31, wherein said inner surface penetrates into ~~the~~ said channels by no more than about 10% of an overall thickness of said outer layer.

36. (Cancelled)

37. (Currently amended) A communications cable comprising:

a plurality of insulated wires, each of said wires comprising:

a conductor;

at least one fire and smoke retardant inner insulating layer encasing said conductor, wherein at least one of said at least one inner insulating layer is a nano-composite layer comprising nano-sized platelets and a flame and smoke retardant additive package dispersed within a polyolefin matrix; and

an outer layer encasing said at least one insulating layer, wherein said outer layer is substantially resistant to flame spread and smoke evolution, substantially impermeable to moisture and wherein said outer layer has a dielectric constant lower than about 2.5 and dissipation coefficient lower than about 0.001 at frequencies up to about 650 MHz; and

an outer jacket encasing said plurality of wires[.];

wherein said at least one inner layer has a volume of at least about 35% and up to about 70% of the volume of said at least one inner layer and said outer layer combined.

38. (Cancelled)

39. (Original) The communications cable of claim 37, wherein said plurality of conductors are twisted into balanced pairs.

40. (Original) The communications cable of claim 37, wherein said jacket is flame resistant and has low smoke evolution.

41. (Original) The communications cable of claim 37, wherein the cable has flame resistant and smoke evolution properties conforming to NFPA262.

42. (Original) The communications cable of claim 37, wherein there are eight wires twisted into four balanced pairs.

43. (Original) The communications cable of claim 37, wherein the signal attenuation of the cable at least meets the standards of TIA/EIA 568 B.2 & B2.1.

44. (Original) The communications cable of claim 39, further comprising an insulating separator between each of said balanced pairs.

45. (Original) The communications cable of claim 44, wherein the signal attenuation of the cable at least meets the standards of TIA/EIA 568 B.2 & B2.1. and NFPA 262.

46. (Original) The communications cable of claim 37, further comprising a shielding layer between said jacket and said balanced pairs.

47. (Original) The communications cable of claim 46, wherein the signal attenuation of the cable at least meets the standards of TIA/EIA 568 B.2 & B2.1. and NFPA 262.

48. (Original) The communications cable of claim 37, wherein said outer layer is a fluoropolymer.

49. (Original) The communications cable of claim 48, wherein said fluoropolymer is Fluorinated Ethylene Propylene polymer.

50. (Currently amended) The communications cable of claim 3~~7~~[8], wherein said flame and smoke retardant additive package is intimately mixed with said polyolefin matrix.

51. (Currently amended) The communications cable of claim 3~~7~~[8], wherein said nano-sized platelets are intimately mixed within said polyolefin matrix.

52. (Original) The communications cable of claim 51, wherein said nano-sized platelets form an intercalated nano-composite structure within said polyolefin matrix.

53. (Original) The communications cable of claim 51, wherein said nano-sized platelets form an exfoliated nano-composite structure within said polyolefin matrix.

54. (Original) The communications cable of claim 51, wherein said nano-sized platelets form a both intercalated and exfoliated nano-composite structures within said polyolefin matrix.

55. (Currently amended) The communications cable of claim 3~~7~~[8], wherein said nano-sized platelets are selected from the group consisting of organically modified nano-clays and organically modified synthetic platelets or combinations thereof.

56. (Original) The communications cable of claim 37, wherein said nano-sized platelets comprise synthetic platelets, said synthetic platelets dispersed in said polyolefin matrix.

57. (Original) The communications cable of claim 37, wherein said wherein flame and smoke retardant additive package is selected from the group consisting of a non-

halogen additive package, an intumescent additive package, a halogen additive package and combinations thereof.

58. (Original) The communications cable of claim 57, wherein said non-halogen additive package contains at least 50% light metal hydroxides.

59. (Original) The communications cable of claim 58, wherein said light metal hydroxides are selected from the group consisting of magnesium hydroxide and aluminum hydroxide minerals and combinations thereof.

60. (Original) The communications cable of claim 58, wherein said light metal hydroxides are dispersed in said polyolefin matrix in combination with other additives selected from the group consisting of molydates, borates, stannates, and silicates and combinations thereof.

61. (Original) The communications cable of claim 58, wherein said light metal hydroxide minerals are surface treated.

62. (Original) The communications cable of claim 61, wherein said surface treatment is with hydrophobic polymers.

63. (Currently amended) The communications cable of claim 37, wherein said flame and smoke retardant additive package contains at least 50% intumescent type additives.

64. (Original) The communications cable of claim 63, wherein said intumescent type additives are selected from the group consisting of melamine cyanurate, phosphate derivatives of melamine, ammonium polyphosphate and combinations thereof.

65. (Original) The communications cable of claim 63, wherein said intumescent type additives are dispersed in said polyolefin matrix in combination with other additives selected from the group consisting of molydates, borates, stannates and silicates and combinations thereof.

66. (Original) The communications cable of claim 63, wherein said intumescent type additives are surface treated.

67. (Original) The communications cable of claim 66, wherein said surface treatment is with hydrophobic polymers.

68. (Currently amended) The communications cable of claim 3[7][8], wherein said flame and smoke retardant additive package contains halogen type additives in excess of about 50% of the total additive package.

69. (Original) The communications cable of claim 68, wherein said halogen type additives are selected from a group consisting of bromine, chlorine, PTFE particles and combinations thereof.

70. (Original) The communications cable of claim 68, wherein said halogen type additives are combined with antimony oxides in a predetermined molar ratio of one mole of antimony oxides to 3 moles of halogen.

71. (Original) The communications cable of claim 68, wherein said flame retardant additives are dispersed in said polyolefin matrix in combination with other minor additives selected from the group consisting of molydates, borates, stannates and silicates and combinations thereof.

72. (Currently amended) The communications cable of claim 3[7][8], wherein said polyolefin matrix is selected from a group consisting of metallocene type polyolefins, elastomer polyolefins and functionalized polyolefins and combinations thereof.

73. (Currently amended) The communications cable of claim 3[7][8], wherein said at least one of said at least one inner insulating layer is foamed.

74. (Original) The communications cable of claim 73, wherein said foamed layer comprises nano-sized platelets dispersed into a foamed polyolefin matrix.

75. (Currently amended) The communications cable of claim 37[8], wherein said conductor is a copper conductor and wherein an overall diameter of the wire does not exceed about 26 mils.

76. (Currently amended) The communications cable of claim 37, wherein said at least one inner insulating layer and said outer layer combined do not exceed about 12 mils thickness.

77. (Currently amended) The communications cable of claim 37, wherein an outer surface of said inner insulating layer adjacent an inner surface of said outer layer has a series of channels formed therein.

78. (Original) The communications cable of claim 77, wherein said channels are equally spaced.

79. (Original) The communications cable of claim 77, wherein said channels have identical cross-sections.

80. (Original) The communications cable of claim 77, wherein the said indentations are projected toward the centre of the said conductor and penetrate into the said inner layer by no more than about 66% of the total layer thickness.

81. (Original) The communications cable of claim 77, wherein said inner surface penetrates into the said channels by no more than about 10% of an overall thickness of said outer layer.

82. (Cancelled)

83. (Currently amended) A ~~Category 6~~ communications cable comprising:

four twisted pairs of insulated wires, each of said wires comprising:

a conductor;

at least one inner layer encasing said conductor; and

an outer layer encasing said insulating layer; and

an outer jacket encasing said twisted pairs; ~~and~~

wherein the cable has a flame travel of less than 5.0 feet, a peak smoke development of less than 0.50 and an average smoke development of less than 0.15 when measured according to NFPA262[.] and wherein the communication cable at least meets Category 6 performance requirements.

84. (Currently amended) The communications cable of claim 84, wherein said at least one inner layer comprises at least about 35% of a width of said at least one inner layer and said outer layer combined.

85. (Currently amended) The communications cable of claim 84, wherein at least one of said at least one inner layer is a nano-composite layer comprising nano-sized platelets and a flame and smoke retardant additive package dispersed within a polyolefin matrix.